WHAT IS CLAIMED:

1. An internal combustion engine comprising:

two opposed cylinders, each cylinder having a cylinder liner adapted to accept two opposed pistons therein defining a combustion chamber therebetween, the opposed pistons adapted to reciprocate along a common axis, the cylinder liner further comprising intake ports and exhaust ports;

a crankshaft disposed between the cylinders, the crankshaft comprising journals;

a housing adapted to house the cylinders; and

a scavenge pump associated with each cylinder, the scavenge pump comprising a first scavenging chamber and a second scavenging chamber, the first scavenging chamber defined by an end of the housing and a plunger linked to one of the opposed pistons distal from the crankshaft, wherein the plunger is adapted to move in unison with the piston and to draw in a fluid from outside the housing and to expel fluid to the second scavenging chamber, the second scavenging chamber adapted to expel fluid into the combustion chamber through the intake ports.

2. The engine of claim 1 wherein the second scavenging chamber of each of the two cylinders are in fluid communication.

3. The engine of claim 1 wherein the crankshaft has asymmetrically arranged journals, the engine further comprising:

pushrods coupling one of the two opposed pistons proximate the crankshaft to at least one shared journal; and

pullrods coupling one of the two opposed pistons distal the crankshaft to at least one shared journal.

4. The engine of claim 1 wherein the second scavenging chamber of each of the two cylinders are not in fluid communication.

5. The engine of claim 1 wherein each pair of opposed pistons further comprises an outer piston distal from the crankshaft and an inner piston proximate the crankshaft, the engine further comprising:

at least one pushrod in urging engagement with each of the inner pistons at a first end and coupled to at least one shared journal on the crankshaft at a second end, wherein at least one pushrod comprises a second end comprising two tangs; and

at least one pullrod in urging engagement with each of the outer pistons and coupled to at least one shared journal on the crankshaft.

6. An internal combustion engine comprising:

at least two opposed cylinders, each comprising one pair of opposed pistons reciprocating along a common axis, and an end of each opposed piston, in conjunction with a cylinder, defining a combustion chamber; and

a crankshaft having at least one journal coupled to at least one pullrod and at least one pushrod for a pair of opposed pistons.

7. The engine of claim 6 wherein the one pair of opposed pistons comprises a first inner piston and a second inner piston, each inner piston linked to a push rod at one end and each push rod at a second end engaged to the one journal.

8. The engine of claim 6 wherein the connecting elements comprise:

a forked push rod comprising two tangs connected to one inner piston and an interlocking push rod connected to a corresponding opposite inner piston, both push rods being movable on a common axis.

9. The engine of Claim 6 further comprising:

a bearing element disposed between the forked push rod and the interlocking push rod at the connecting rod.

10. The engine of claim 9 further comprising:

a scavenge pump associated with each cylinder, the scavenge pump comprising a first scavenging chamber and a second scavenging chamber, the first scavenging chamber defined by an end of a housing and a plunger linked to one of the opposed pistons distal from the crankshaft, wherein the plunger is adapted to move in unison with the piston and to draw in a fluid from outside the housing and to expel fluid to the second scavenging chamber, the second scavenging chamber adapted to expel fluid into the combustion chamber.

11. The connecting rod of claim 9 further comprising a lubrication port and associated conduit so that so that a lubricant may be presented to the bearing element.

12. The engine of claim 6 wherein the crankshaft is a built-up crankshaft.

13. An internal combustion engine comprising:

two pairs of opposed pistons reciprocating along a common axis, and an end of each opposed piston, in conjunction with a cylinder, defining a combustion chamber;

a connecting element linking each piston at an end of the piston opposite the combustion side, wherein at least a pair of connecting elements are movably aligned substantially along a common axis.

14. The engine of claim 13 further comprising at least two pairs of connecting elements wherein each pair is aligned on an associated common axis.

15. An engine comprising:

an internal combustion engine comprising two opposed cylinders, each cylinder comprising at least one pair of opposed pistons reciprocating along a common axis, and an end of each opposed piston, in conjunction with a cylinder, defining a combustion chamber;

a crankshaft connected to at least one piston by at least one connecting element, the crankshaft having at least one journal for coupling the connecting element; and

a scavenge pump associated with each cylinder, the scavenge pump comprising a first scavenging chamber and a second scavenging chamber, the first scavenging chamber defined by an end of a housing and a plunger linked to one of the opposed pistons distal from the crankshaft, wherein the plunger is adapted to move in unison with the piston and to draw in a fluid from outside the housing and to expel fluid to the second scavenging chamber, the second scavenging chamber adapted to expel fluid into the combustion chamber.

16. The engine of claim 15 wherein external radiating fins are disposed externally around a portion of the cylinder for heat transfer.

17. The engine of claim 16 wherein the radiating fins comprise fins having a helical pattern.

18 An engine comprising:

an internal combustion engine comprising at least two opposed cylinders, each cylinder comprising at least one pair of opposed pistons reciprocating along a common axis, and an end of each opposed piston, in conjunction with a cylinder, defining a combustion chamber; and

the pair of opposed pistons comprising an inner piston and an outer piston;

the cylinder comprises at least one exhaust port disposed so that reciprocation of the inner piston opens and closes the exhaust port, and at least one intake port disposed so that reciprocation of the outer piston opens and closes the intake port;

a crankshaft linked to the inner piston by a push rod, and the crankshaft linked to the outer piston by an pull rod wherein rotation of the crankshaft causes asymmetric port timing.

19. The engine of claim 18 further comprising:

a scavenge pump associated with each cylinder, the scavenge pump comprising a first scavenging chamber and a second scavenging chamber, the first scavenging chamber defined by an end of a housing and a plunger linked to one of the opposed pistons distal from the crankshaft, wherein the plunger is adapted to move in unison with the piston and to draw in a fluid from outside the housing and to expel fluid to the second scavenging chamber, the second scavenging chamber adapted to expel fluid into the combustion chamber.

20. The engine of claim 19 wherein the crankshaft journals are arranged to present the opening of the intake port after the closing of the exhaust port.

21. The engine of claim 18 wherein the crankshaft is adapted so that there is a phase angle of about 20 degrees between the intake ports and the exhaust ports.

22. An engine comprising:

a piston disposed in a cylinder, one end of the piston cooperating with the cylinder to form a combustion chamber, the other end of the piston linked to a plunger, the plunger moves in unison with the piston; and

a scavenge pump associated with the engine, the scavenge pump comprising

a first scavenge chamber adapted to receive the plunger.

23. The engine of claim 22 wherein the scavenge pump further comprises

a second scavenge chamber in fluid communication with the first chamber; and

a transfer valve disposed between the first fluid chamber and the second fluid chamber so that fluid displaced by the plunger may be directed in one direction.

24. The engine of claim 22 wherein the scavenge pump further comprises:

a fluid transfer conduit having a transfer valve, the fluid transfer conduit being in fluid communication with the first scavenge chamber so that an external fluid may be introduced to the assembly.

25. The engine of claim 22 wherein the cylinder further comprises at least one intake port in fluid communication with the scavenge pump so that reciprocating motion of the plunger directs an external fluid into the cylinder.